

CLAIMS

1. A silicon carbide porous body, in which silicon carbide particles as an aggregate and metal silicon as a bonding material are bonded so that pores are formed between the silicon carbide particles, the silicon carbide porous body comprising an oxide phase in at least a part of each pore, wherein the oxide phase includes oxides of silicon, aluminum and an alkaline earth metal, and the oxide phase does not substantially include an alkaline earth metal silicate crystal phase.

10 2. The silicon carbide porous body as defined in claim 1, wherein the oxide phase is provided on a surface of the silicon carbide particles and/or a surface of the metal silicon.

15 3. The silicon carbide porous body as defined in claim 1 or 2, wherein the oxide of silicon is silicon dioxide (SiO_2), the oxide of aluminum is dialuminum trioxide (Al_2O_3), and the oxide of an alkaline earth metal is calcium oxide (CaO) or strontium oxide (SrO).

20 4. The silicon carbide porous body as defined in claim 3, wherein the oxide phase includes the dialuminum trioxide in an amount of 5.0 to 50.0 mol% of the entire oxide phase in molar ratio.

25 5. The silicon carbide porous body as defined in any of claims 1 to 4, wherein the oxide phase includes silicon dioxide, dialuminum trioxide, and the oxide of an alkaline earth metal, the oxide phase being an amorphous phase or a crystal phase including dialuminum trioxide in a crystal structure.

6. The silicon carbide porous body as defined in claim 5, wherein the crystal phase includes cordierite, anorthite, or strontium feldspar ($\text{SrAl}_2\text{Si}_2\text{O}_8$).

7. A honeycomb structure, comprising the silicon carbide porous body as defined
5 in any of claims 1 to 6.

8. A method of manufacturing a silicon carbide porous body, the method comprising: adding compounds containing silicon, aluminum, and an alkaline earth metal to silicon carbide particles and metal silicon to obtain a raw material, forming the
10 resulting raw material into a predetermined shape, and calcinating and firing the resulting formed product to obtain a porous body including an oxide phase including oxides of silicon, aluminum, and an alkaline earth metal on at least a part of a surface of the silicon carbide particles and/or the metal silicon and having a content of dialuminum trioxide (Al_2O_3) of 5.0 to 50.0 mol% of the entire oxide phase in molar ratio.